

REMARKS

I. Drawings

In the Office Action, the drawings were objected to under 37 C.F.R. §§ 1.83 and 1.84. In particular, it was stated that the “moving means of claim 4 and the monitoring means of claim 7 must be shown.” It was further required that “legends be added to the block symbols in figures 1-3.”

Regarding the “moving means,” Fig. 1 has been amended to include a schematic representation of the movement system 21. Two paragraphs of the specification have also been amended to include the reference numeral 21 identifying the movement system.

Regarding the “monitoring means,” claim 7 has been amended to recite a combination of elements, including “means for controlling the exposure and the degree of enlargement of the images,” thereby rendering moot this objection to the drawings. The “means for controlling” corresponds to the “exposure and enlargement control unit 35,” as described in the as-filed specification at least at page 9, lines 6-14, and as shown in Figs. 1-3.

Regarding the legends, Figs. 1-3 have been amended to include legends in the block symbols, as suggested by the Examiner.

In addition, Fig. 1 was amended to include a schematic representation of the electrical connection between module 20 and module 30, which was inadvertently omitted in Fig. 1 as filed. Further, Fig. 2 was amended to include reference numerals 31-35, which were inadvertently omitted in Fig. 2 as filed. Also, in Fig. 2 reference

numeral 30 was moved to accommodate the added reference numerals. Applicant respectfully submits that no new matter has been added by these amendments.

II. Status of the Claims

By this Amendment, claims 4-18 have been amended and new claims 19-48 have been added. Thus, claims 1-48 are pending.

III. Claim Objections Under 37 C.F.R. § 1.75(c)

In the Office Action, claims 4-18 were objected to under 37 C.F.R. § 1.75(c) as being in improper multiple dependent form. Claims 4-18 have been amended so that they are no longer in multiple dependent form. Thus, Applicant respectfully submits that the pending claims satisfy the requirements of 37 C.F.R. § 1.75(c) and that the objection should be withdrawn.

IV. Claim Rejections Under 35 U.S.C. § 103

In the Office Action, claims 1-3 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,235,191 to Miller in view of U.S. Patent No. 4,896,344 to Grady et al. (Grady). This rejection is respectfully traversed based on the following comments.

To establish a prima facie case of obviousness under 35 U.S.C. § 103, three basic criteria must be satisfied. First, "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings." M.P.E.P. § 2143. "Second, there must be a reasonable expectation of success." Id. Third, "the prior art reference (or references when combined) must teach or suggest all the claim limitations." Id.

There are three possible sources for finding “motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons skilled in the art.” M.P.E.P. § 2143.01 (quoting In re Rouffet, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998)). Moreover, “[t]he teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure.” M.P.E.P. § 2143 (citing In re Vaeck, 947 U.S.P.Q.2d 1438 (Fed. Cir. 1991)).

Under the guidance of the M.P.E.P., an obviousness rejection relying on the combination of the Miller reference with the Grady reference fails to establish a prima facie case of obviousness for at least the reason that there is no suggestion or motivation to combine the subject matter of these references. Rather, the rejection appears to rely on hindsight and the teaching of Applicant’s own disclosure to find the motivation needed to combine the cited references. Accordingly, Applicant respectfully submits that a prima facie case of obviousness has not been established and that the rejection should be withdrawn.

Miller teaches an “x-ray imaging system” comprising an “x-ray source 24,” a “scintillating screen 20” for converting X-rays into visible light, and a mirror 32 for reflecting the light towards a “camera system 34.” Miller at col. 3, lines 21-39. The camera system 34 comprises a “lens 36 and a charge-coupled device (CCD) camera 38,” which “generates electrical signals in response to light rays” and transmits the signals to an “image processor 42, a computer 44, and a monitor 46.” Id. at lines 40-45.

As acknowledged in the Office Action at page 3, Miller fails to teach an “assembly for optical intensification of the enlarged images,” as recited in claim 1.

However, it was asserted in the Office Action at page 3, that it would have been obvious "to employ [in Miller] such a device as taught by Grady in order to improve imaging sensitivity." Applicant respectfully disagrees. Rather, Applicant respectfully submits that there is no suggestion or motivation to modify the device of Miller with the teachings of Grady, as suggested in the Office Action, for at least the following reasons.

First, both Miller and Grady teach away from such a combination. For example, the device of Miller uses a lens 36 to focus the light entering the camera. This "zoom lens 36" was acknowledged in the Office Action at page 3. As described in Miller, the lens is "manufactured to specifications which require that the lens be of the variable field of view type, with automatic focusing such that the lens maintains the image in focus as its field of view changes." Miller at col. 6, lines 27-30. Further, the described lens "has a zoom ratio of 12:1." Id. at lines 30-31.

On the other hand, the image intensifier of Grady comprises an integral "zoom electrode 36" for focusing the light entering the camera. Grady at col. 5, lines 6-11 and Fig. 4. One of ordinary skill in the art would have no suggestion or motivation to modify the device of Miller with the image intensifier of Grady, as suggested in the Office Action, because the device of Miller already has a lens to focus the light entering the camera. There is no need for an additional mechanism for focusing the light entering the camera. Indeed, the additional equipment may, in fact, interfere with the focusing operation, as well as, for example, reduce an image intensity. Accordingly, by utilizing a lens to focus the light, Miller teaches away from the combination suggested in the Office Action, which would provide the device with redundant focusing hardware.

Further, Grady explicitly teaches away from using the image intensifier in a device, such as that of Miller, where focusing is carried out by "moving the lens." Grady at col. 5, lines 15-16. According to Grady, the integral zoom electrode 36 was provided to avoid "introducing difficult mechanical movements and tolerances" associated with moving the lens while focusing the light. Accordingly, both Miller and Grady teach away from the combination suggested in the Office Action.

Second, there is no suggestion or motivation to modify the device of Miller with the teachings of Grady, as proposed in the Office Action, because such a modification would render the device of Miller unsatisfactory for its intended purpose. For example, Miller is concerned with increasing the signal to noise ratio of an X-ray system. Miller at col. 2, lines 14-23. Indeed, it is a stated "object of the invention" to "provide an x-ray imaging system which has a very high resolution . . . and produces a brilliant, visible-light image." Id. at lines 47-50.

In this regard, Miller proposes an improved "scintillating screen 20," which operates at nearly 100 percent efficiency, as compared to the screens of known systems, which operate at about 35-40 percent efficiency. Id. at col. 1, lines 26-29 and col. 3, lines 49-62. In addition, to further improve the system's signal to noise ratio, the CCD camera 38 and its related components are cooled with an external CCD cooling device 39. Id. at col. 6, lines 49-62 and Fig. 1.

Providing the system of Miller with the image intensifier of Grady, assuming such a modification would be possible, would increase the noise in the system and decrease the signal to noise ratio, contradicting a stated object of the invention. This modification would therefore render the device of Miller unsatisfactory for its intended purpose.

According to M.P.E.P. § 2143.01, if a "proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." (citing In re Gordon, 221 USPQ 1125 (Fed. Cir. 1984)). Accordingly, Applicant respectfully submits that there is no suggestion or motivation to make the modification proposed in the Office Action.

Because there is no suggestion or motivation to modify the Miller reference with Grady, as required by M.P.E.P. § 2143, Applicants respectfully submit that a prima facie case of obviousness has not been established and that the rejection should be withdrawn.

Applicant respectfully submits that claim 1 is patentable over the references applied in the Office Action. Additionally, claims 2-48 depend directly or indirectly from claim 1 and therefore include the same patentable combination of elements, as well as reciting additional elements that further distinguish over the applied references. Accordingly, Applicant respectfully submits that claims 2-48 are also allowable.

V. Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration of this application and the timely allowance of the pending claims.

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Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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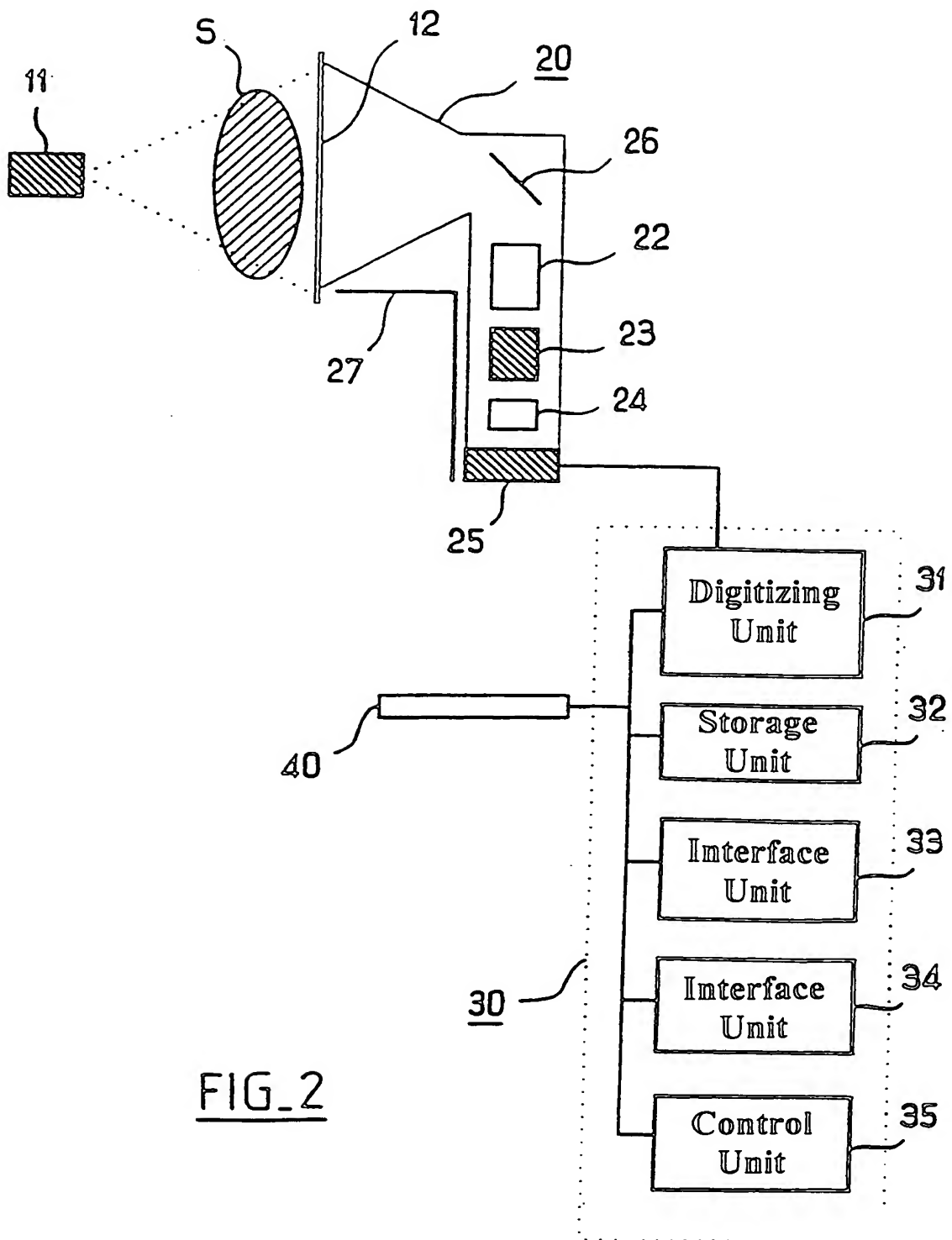
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Attachments: Three replacement drawing sheets, consisting of Figs. 1-4, and three annotated drawing sheets, consisting of Figs. 1-4.

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